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INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

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Economic/Scientific

The Mining Research Institute, BUDAPEST

1. The Hungarian Mining Research Institute, known as the	
BANYASZATI KUTATO THTEZET, is situated in various buildings in different	
parts of BUDAPEST. Its head warters is at 18, ALPARI GYNLA UTCA.	
2. originally called the Central Research 2	5X1
Laboratory of Coalmining (SZENBINYASZATI KOZPONTI KUTATO LABORITORIUM).	
In 1949 the name was changed to BANYASZOTI KUTATO INTEZET. In 1953	
the machinery-development section broke away from the rest and was named	
the BANYAGEP ALKALMAZASI KISEPLETI KUTATO INTEZET and was housed in	
NADOR JOZSEF TER, BUDAPEST. Durin, this period the head of the machinery	
section was BOCSINSZKY (or BOTCINSZKI) f.m.u., now an official working	
for the Ministry Council (TANACS). Past heads of the Institute were	
VLJK 1rthur (1949-1954) and Dr. ZAMBO Janos (1954-1955). In the summer	
of 1955 the two joined again. 25	X 1
3. Originally (1949) the Institute dealt only with coal. In	
1950 this was extended to include all ores and even stone-quarries.	
4. The Institute comes under the Department of Industrial De-	
velopment of the Ministry of Coalmining (SZENBANYASZATI MINISZIERIUM:	
MUSZAKI FEJLESZTESI FÖOSTALY). This department is responsible for order-	
ing research into mining problems, evolving new techniques, machinery, etc.	
5. Other Premises used by the Institute are those housed in an	
old cosmetics factory at KARTACS UTCA, 24, BUDLPEST, XIII. Here is	
installed a coal-preparation pilot plant. Apart from this the KARTACS	
UTCA building is badly equipped.	
The interded to build a new Institute near the OBUDA gas-	

other facilities such as coking plants. The official target-date for this building is the end of 1957 or the beginning of 1958. The living-quarters for workmen engaged on the project are ready and the Chemical Industries Planning Institute has already put forward its plans.

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7. The OBUDA building will house the Institute's Chemical Dep	ert-
ment, the Coal-Preparation Department and perhaps the Ore Department as	
well. The rest of the Institute is scheduled to move into a half-fini	shed
Army hospital in OBUDA about the same time. Plans for office-allocati	.en
are completed but a difference of opinion with the Ministry of War over	•
the Luilding is holding things up. AJTAY, Director of the Institute,	has
wide connections and it is thou ht that he will win the dispute. It i	.s
thought highly probable, however, that the revolution will have delayed	ι
both these plans for a considerable pericd,	
8. Before the revolution, the Institute employed between 200	
and 300 persons. Of these, 40 or 60 were qualified scientists er engi	in-
eers. About 40 of the eriginal total staff left Hungary as a result of	of
the revolution, but their places have since been	25X1
filled.	
9. The Director is LJTLY Zoltan	25X1
10. The Deputy-Director is BINDER Bela.	
11. The Departments in the Institute are listed below. The	
figure given for the number of persons employed is only very approxim	ате
but includes all categories of workers.	
(a) SZEN ELOKESZITESI OSZT/LY: Coal-Preparation Department.	25X1
40 workers headed by M.RTINI Karoly	SECRET
/(b)	

(b) BANYA BIZTONSAG: Mining Safety. 10 persons, headed by	
BUBICS György.	
(c) VECYESZETI OSZT.LY: Chemical Department. 12 persons, led	
by G.I. Ernö.	
(d) BENYA GEFESZETI OSZTALY: Mining Machinery. 25 persons	
headed by a young man named MEITZEN Nandor.	
(e) BANYA MUVELES: Exploitation and Technique. 10 men until	
recently, led by MARTOS Ferenc.	25 X 1
(f) ERC ES KOZET OSZTALY: Quarry and Ore Department (pyrites,	
lead, mangarese, etc.). 15 men headed by HALASZ Andras. This de-	
partment had been responsible for adapting "hydrocyclons" made by	
the GLBOR LRON Factory for the preparation of Manganese ore mined at	
the URKUT MINGINERC BINYL, near VESZPREM. (This department was con-	
cerned mainly with products other than coal.)	
(g) BANYAVIZ VEDELMI OSZTALY: Department for preventing the ac-	
cumlation of water in the mines. 3 - 4 persons, leader unknown.	
This Department was once scrapped but was later reorganised.	
(h) KISERLETI KIRENDELTSEGEK. Experimental team for practical	
tests of the prototype machinery developed. The number of workers	
is not known, but the leader is SZENTORNYAI, f.n.u.	25 X 1
(i' KÖZET MECHANIKA OSZTALY: Department for studying the rock	
formation around the mine-shafts and tunnels to determine the possi-	
bility of shifting and subsidence. It is also their responsibility	
to advise on the need to fill old workings with sludge etc. There	
are 12 men in this department, led by Dr. HORVATH, f.n.u.	
(j) OLIJ OSZTILY: Oil Department. 8 men under MIZILIN Pal	25 X 1
(k) BLNYA VILLAMOSSAG: Mining electricity department. This	
department is responsible for planning the supply of power throughout	

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the mines (insulation and spark-proofing is the responsibility of the Safety Department.) The number of men employed here is not known but they are led by VITALYOS Gabor.

(1) ADMINISTRACIO: Administration. This office employs more thar 30 persons. It is headed by PLATTHY Elemer, rated as the next most important man in the Institute after the Director. He is responsible, inter alia, for all the finances connected with research.

25X1

- 12. The following are some examples of the work of the coal-preparation department:-
 - (a) In TATABANYA tests were made during 1956 to see if the waste-heaps there, some of which are 30 years old or more, would yield any appreicable quantity of quality coal if submitted to processing.

 TATABANYA was chosen because the waste-heaps there were believed to contain the highest proportion of usable coal. The Institute staff had to advise on this problem.
 - (b) The department has to devise new washing-processes for soal in order to reduce the ash-content. This varies in Hungary between areas and even between points within the same area, but on the whole it lies between 30% and 40%. Orders to treat certain coals are received from the Ministry. The coal is then examined in the laboratory, put through tests in the pilot plant and then the resulting data is given to the Ministry or to the appropriate Industrial Planning Institute (such as the Mining Industry Planning Institute in ROCSEVELT TER).
 - (c) New devices for coal separation have to be evolved. MARTINI, for instance (read of the department), invented a separator operated by compressed air. Rapid blasts of air under a rotating cylinder "fluidised" the coal inside and caused the coal to rise higher than the shale. Advantage, over the liquid method is that there is no filtration of water needed afterwards. One disadvantage is that the separation is not so sharp.

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25X1

25X1

(d) About two or three years ago, scientists from the Institute	
went to Czechoslovakia to examine a separation plant erected	
leading Czech engineer M/LI (?) f.n.u.	25X1
The Czechs allowed the Hungarians to copy the	
plant, but insisted that the whole business should be treated as a	

matter of the greatest secrecy. The plant operated on BARIT (Barium Sulphate: BaSO4) which had an advantage over the normal heavy media such as water mixed with sand and clay, in that it combined heavier specific gravity with lower viscosity. Its specific gravity can also be varied easily to suit different conditions of coal. It is intended to use this method of separation in a new plant in the BORSOD coalfields where the grade of coal is low.

- (e) The institute is also concerned with the erection of a new washing plant between PECS and KOMLO near HOSZUHETENY, where a large thaft is scheduled for completion by 1960. The PECS plant is already overloaded and cannot supply sufficient washed coal to the gas plant at OBUDA and the factories at SZTALINVAROS. Czechoslovak engineers, led by MALI, will be erecting this washin, plant, and the Hungarian Institute was asked for complete date on the coallields in the area in order that the Czechs might assess the cost of the project. This date was handed to them two days before the revolution broke out.
- (f) The coal-preparation department has also been concerned with the reconstruction of the PECS washing-plant. Here too the Czechs under MALI are to assist the Hungarians.
- (g) The coal-preparation department, in common with the rest of the Institute, was engaged on the mass checking of hungarian coal deposits ordered by the Russians at the end of 1953 onwards. This was at first a super-priority task which caused all other work to come to a standstill. The work was finally completed only in the summer of 1956 but after the first twelve months, the sense of urgency in the matter began to diminish and normal work was partly resumed.

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- 13. The following are some examples of the work done by the Mining Safety Department of the university:
 - (a) The department was organised as a direct result of the TATA-BANYA disaster in 1952 when 80 miners were killed. The cause of the accident was an explosion of methane followed by ignition of the coaldust, both set off by a blasting operation. The first task of the department was therefore to take samples of mine-air from every shaft and classify them according to their content of methane and carbon dioxide. The result of the tests was that PECS and KCALO (both high-grade coal), TATABANYA and DEL NOGRAD (both inferior coal) were all classified as dangerous. No carbine lamps, no spark-producing machinery, etc. were allowed to be used in these pits.
 - (b) Dust-suppression also occupied the the attention of this Safety Department. Efforts to find an ideal reagent to mix with water were never conclusive. Attempts were made to use the Sulphanates used in the textile industry, but these were not wholly satisfactory. A Russian expert came to the Institute two years ago to see what progress had been made in this field, but the impression gained was that they were no further advanced than the Hungarians.
 - (c) The department was engaged on the development of spark-proof switches, insulation of cables, etc.
 - (d) The department also draw up a book of miners' safety rules, adherence to which was supervised by the ORSZAGOS B.NYAMUSZAKI FEL-UCYELOSEG, a type of higher committee believed to be drawn mostly from the Party's central committee members.
- 14. The Chemical Department is essentially one dealing with analysis rather than treatment of the coal. Its work includes the following:
 - (a) Developing and applying new methods of chemical analysis for the organic and inorganic contents of coal.
 - (b) Quality-control of coal by routing tests, as ordered by the Ministry.
 - (c) Collation of data from the pit-head laboratories in all parts of Hungary to form a central register of coal qualities being mined.

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- 15. The Machinery Department's research work included the following:-
 - (a) Research into methods of transmitting power hydraulically and by compressed air.
 - (b) Development of cutting machines, etc., such as the F.4, which was developed under the direction of AJTAY. This machine has a rotating head fitted with teeth or knives, the head being mounted on a long arm and being pushed against the coal-face.
 - (3) Development of devices such as hand-pumps for obtaining samples of mine-air. Some of these were copied from Western patents.
 - (d) Development of seals for compressed air and oil. Rubber O-rings were copies from Western patents, but the poor quality of Hungarian rubber often prevents efficient operation.
 - The testing of newly-received Russian equipment and the adaptation of it to conditions in Hungarian mines. The Hungarian Scientific Academy (MAGYAR TUDOMINYOS MADEMIL) has a workshop in the ZIVth (ZUELO) district of BUDAPEST, named the KUTATASI ESZKOZOKET KIVITELEZO VALLALAT. This workshop produces prototypes of all the machines and other equipment invented by all Government Research Institutes and therefore works closely with the Machinery Department of the Mining Research Institute. It was in this workshop that the Hungarian

plant mentioned in para. 12(d) above was first 25X1 constructed and also the compressed air coal-preparation plant mentioned in para. 12(c) above. The Mining Research Institute also works closely with the workshop belonging to the general Patents Office (OKSZAGOS TALMANYI HIVATAL UJIFASOKAT KIVITELEZO VALLALAT) and with the DUCLOS BLNYAGEP GYAR in GYOMROI UT., UJPEST.